

Remarks

By the foregoing Amendment, claims 1-6 and 10-15 are amended, and new claim 19 is presented. Applicant respectfully submits that no new matter was added by the amendment and is fully supported by the specification. Entry of the Amendment and favorable consideration thereof is earnestly requested.

The Examiner has rejected claims 1 - 18 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,128,083 to Brooks et al. ("the '083 patent"), in view of U.S. Patent No. 3,573,023 to Thomas et al. ("the '023 patent"), U.S. Patent No. 6,153,023 to Rokutanda et al. ("the '023 patent") and the Abstract of JP 04108675. These rejections are respectfully traversed.

Applicant would like to thank the examiner for the teleconference of January 29, 2004 in which applicant submitted that the '023 patent does not teach or disclose impacting a ceramic with a tool without elevating the temperature of the ceramic workpiece. The '023 patent specifically teaches that "the type of material undertaken for treatment will dictate use of either the basic method of our invention, or the temperature-controlled method of our invention. For the mechanical deformation of materials comprising tungsten carbide can be carried out at normal room temperatures. Materials comprising aluminum oxide, however, require surface deformation in an elevated-temperature environment." (col. 3, lines 58-65)(emphasis added). Therefore, the '023 patent teaches that a ceramic (i.e. aluminum oxide) must be elevated in temperature prior to treatment.

In differentiating "ceramics" from "near ceramics" the '023 patent teaches that "we suggest these – materials comprising tungsten carbide, boron carbide, aluminum oxide, or magnesium oxide – to encompass both the near ceramics and the true ceramics." (col. 3, lines 52-55). As per applicants teleconference with the Examiner and as supported in Applicant's Declaration, both "tungsten carbide, boron carbide" comprise "near ceramics" that may be treated at room temperature, while "aluminum

oxide, or magnesium oxide" comprise "true ceramics" that must be elevated in temperature prior to treatment.

The '023 patent further differentiates ceramics from cermets and cemented carbides, and from still other materials where it itemizes work pieces comprising "cemented carbides, e.g., tungsten carbide, or boron carbide", other types of material compositions including "those comprising aluminum oxides, or magnesium oxides", and still further "those comprising semi-conductor materials: silicon, germanium, etc." (col. 1, lines 43-45).

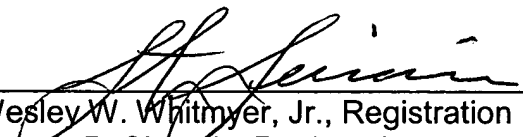
Therefore, the '023 patent teaches that the true ceramics (i.e. aluminum oxide, magnesium oxide, etc.) require treatment at an elevated temperature, while the near ceramics also called the cemented carbides (i.e. tungsten carbide, boron carbide) may be treated at room temperature.

All the claims of the present invention require among other elements "a workpiece manufactured of a ceramic" and the claims have been amended to consistently refer to a ceramic workpiece. The '023 patent specifically teaches that cemented carbides are near ceramics, but are not actually ceramics. In further support of this reading of the '023 patent, applicant submits herewith an affidavit of Mr. Wulf Pfeiffer, the listed inventor, that one of ordinary skill in the art would understand a ceramic to include only actual ceramics and not near ceramics such as cemented carbides or cermets as outlined in the '023 patent.

Applicant respectfully submits then that all the claims of the present invention are directed to ceramics and require "a workpiece manufactured of a ceramic" not cemented carbides or cermets, which are not ceramics. Therefore, because neither the '023 patent nor any of the other cited references teach "a workpiece manufactured of a ceramic" as required by all the claims, no combination of the cited prior art can render the claims obvious.

It is respectfully submitted that claims 1 - 18 all of the claims remaining in the application, are in order for allowance, and early notice to that effect is respectfully requested.

Respectfully submitted,



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